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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,218	09/19/2005	Ilias Manettas	2003P00534WOUS	1364

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BSH HOME APPLIANCES CORPORATION  
INTELLECTUAL PROPERTY DEPARTMENT  
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EXAMINER
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RALIS, STEPHEN J

ART UNIT	PAPER NUMBER
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3742

MAIL DATE	DELIVERY MODE
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10/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/550,218	<b>Applicant(s)</b> MANETTAS ET AL.	
	<b>Examiner</b> Stephen J. Ralis	<b>Art Unit</b> 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Response to Amendment/Arguments***

2. Examiner accepts amendments to Claims and Specification and respectfully withdraws the objections, accordingly.
3. Applicant's arguments, see pages 7-11, filed 02 July 2007, with respect to the rejection(s) of claim(s) 12-26 under 35 U.S.C. 102(b) and 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Alsenz (U.S. Patent No. 4,531,376). Alsenz discloses a refrigerator defroster control comprising pulse-duty ratio control of a heater during a predetermined interval.

### ***Priority***

4. Applicant's claim for foreign priority benefit of German Application No. 10315522.8, filed 04 April 2003, is acknowledged.
5. If applicant desires to claim the benefit of a prior-filed application under 35 U.S.C. 119(e) and/or 120, a specific reference to the prior-filed application in compliance with 37 CFR 1.78(a) must be included in the first sentence(s) of the specification following the title or in an application data sheet. For benefit claims under 35 U.S.C. 120, 121 or

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365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications.

If the instant application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional

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information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

#### ***Oath/Declaration***

6. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 CFR 1.56.

The "duty to disclose" statement is incorrect. The statement should read –I acknowledge the duty to disclose information which is material to patentability of this application in accordance with Title 37, Code of Federal Regulations Section 1.56. –.

A new oath or declaration with the correct "duty to disclose" statement in compliance with 37 CFR 1.67(a) is required.

### ***Specification***

7. The amendment filed 02 July 2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: page 2, second paragraph of said amendment, the portion to be inserted prior to the paragraph beginning of page 7, line 14; said amendment has been only partially entered.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 12-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites the limitation "said recording circuit generating a keyed control signal..." in line 8. It is not definite to exactly what "keyed" is. Therefore, the recitation to "keyed accordingly" is deemed indefinite.

Claim 19 recites the limitation "said pulsed supply current keyed according to..." in line 8. It is not definite to exactly what a "keyed control signal" is. Therefore, the recitation to "keyed accordingly" is deemed indefinite.

Claim 15 recites the limitation "the value range" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 23 recites the limitation "said value range" in line 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 12-14, 18-21 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Alsenz (U.S. Patent No. 4,531,376).

Alsenz discloses a refrigeration device (refrigeration system; Abstract) and a method of operating a defroster heater (heater 46) of the refrigeration device (Abstract), comprising: recording a voltage value of a supply voltage for the defroster heater (column 8, line 18 – column 9, line 10); b) generating a pulse-duty ratio for a pulsed

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supply current for said defroster heating heater depending on said recorded voltage value (pulse circuit means; column 8, lines 25-64); and supplying said defroster heater (heater 46) with said pulsed supply current (pulses or bursts of current through heater 46; pulse circuit means; column 8, lines 25-64) keyed according to said generated pulse-duty ratio, for a fixed heating interval (page 13, claim 9; page 15, claims 22-28).

With respect to the limitations of recording a voltage value of a supply voltage for the defroster heater, Alsenz discloses the capacitor (75) slowly charging until it reaches a selected voltage level that causes reverse conduction of DIAC (68) (conveniently about 32 volts) which causes capacitor (75) to discharge and the LED (70) to conduct, thus generating electromagnetic radiation of preselected wavelengths that is directed toward the LASCR (49). Alsenz further discloses as soon as capacitor (75) discharges, the DIAC (68) reverses, shutting off LED (70) and permitting capacitor (75) to begin charging again. Accordingly, it can be seen that LED (70) will be "turned on" at regular intervals determined by the RC time constant of resistor (66) and capacitor (75) acting as a pulse circuit means, and the LED will generate successive pulses or bursts of electromagnetic radiation directed toward the LASCR which in return in turns on the heater (46). Alsenz clearly records, or registers electronically, the voltage charge of the capacitor (75) until it reaches a certain level. Therefore, the electronic registering of the voltage of Alsenz on the capacitor (75) fully meets "recording a voltage value of a supply voltage for the defroster heater" given its broadest reasonable interpretation.

With respect to the limitations of claim 19 and having a circuit breaker to perform the task of providing a control signal for pulsing a supply current fed to the defroster



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heater, Alsenz discloses the an optical frost sensing means (48) having an electrical schematic and being a control circuit to turn on and off the heater (46).

With respect to the limitations of claims 13, 14, 20 and 21, Alsenz discloses that if the LASCR (49) absorbs a large majority of the radiation generated by the LED (70), the LASCR (49) generates a voltage that exceeding the voltage threshold determined by resistor (80) and the LASCR will conduct thereby placing a large amount of current through the heater (46). Alsenz further discloses that if the LASCR is not receiving radiation from the LED (70), the capacitor (75) is charges again to pulse the LED (70) to conduct with the LASCR (49) acting as a switch means to turn on the heater (46) in successive bursts corresponding to the LED (70) pulses. Therefore since Alsenz discloses a large current flow through the heater (46) and then a decrease to pulsing/bursting current through the heater (46), Alsenz fully meets "generating said pulse-duty ratio as a decreasing step function of said recorded voltage value" and "at least two discrete values for said step function in a predetermined permissible range of fluctuation of said voltage value" given its broadest reasonable interpretation.

With respect to the limitation of claims 18 and 26, Alsenz discloses a pulse circuit means for periodically energizer an emitter for a preselected time interval for generating periodic pulses of radiation (page 13, claim 9; page 15, claims 22-28). Furthermore, the radiation is received by the LASCR (49) providing the LASCR (49) to act as a switch to turn on the heater (46) in successive bursts corresponding to the LED (70) pulses. Such bursts or pulses of large current through the heater (46) are sufficient to cause thermal heating (column 8, lines 52-64). Therefore, Alsenz fully meets "the fixed heating interval

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includes a substantial number of cycles of an alternating current provided by the voltage supply” given its broadest reasonable interpretation.

With respect to the limitations of claims 15 and 23, Alsenz discloses that if the LASCR (49) absorbs a large majority of the radiation generated by the LED (70), the LASCR (49) generates a voltage that exceeding the voltage threshold determined by resistor (80) and the LASCR will conduct thereby placing a large amount of current through the heater (46). Alsenz further discloses that if the LASCR is not receiving radiation from the LED (70), the capacitor (75) is charges again to pulse the LED (70) to conduct with the LASCR (49) acting as a switch means to turn on the heater (46) in successive bursts corresponding to the LED (70) pulses. Alsenz inherently has a voltage range of values and the voltage values are divided into a plurality of intervals defined by less than or greater than the voltage value determined by the resistor (80). Furthermore, Alsenz discloses each interval (i.e. less than or greater than) having different pulse-duty ration defined by constant conduction and pulses determined by the RC time constant of resistor (66) and capacitor (75). Therefore, Alsenz fully meets “value range of said voltage value is divided into a plurality of intervals, each said interval has a fixed pulse-duty ratio assigned” given its broadest reasonable interpretation.

As the reference meets all material limitations of the claims at hand, the reference is anticipatory.

***Joint Inventors – Common Ownership Presumed***

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12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Claim Rejections - 35 USC § 103***

13. Claims 15-17 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alsenz (U.S. Patent No. 4,531,376).

Alsenz discloses all of the limitations of the claimed invention, as previously set forth, except for the step function having three or more discrete values; the ratio from upper to lower limit of each said interval is between 1.1 and 1.2; the recording circuit assigns voltage values below 150 VAC and a pulse-duty ratio of 1; and the recording circuit assigns voltage values below 165 VAC and a pulse-duty ratio of 1.

With respect to the limitations of claim 22, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to make the step function have three or more discrete values, since it has been held that mere duplication of essential working parts/components/measurements of a device involves only routine skill in the art.

With respect to the limitations of claims 15 and 23, Alsenz explicitly discloses the regular intervals being determined by the RC time constant of resistor (66) and capacitor (75) acting as a pulsing circuit means (column 8, lines 33-36). Clearly, to define the pulse-duty ratio accordingly would involve design specification and experimentation with respect to resistance and capacitances of resistor (66) and capacitor (75) accordingly. Therefore, to provide a ratio of the upper limit and lower limit of each interval being between 1.1 and 1.2 would have been a mere engineering expediency as Alsenz clearly teaches the use of a resistor (66) and capacitor (75) acting as a pulsing circuit means and defining such a circuit would involve design specification and experimentation with respect to resistance and capacitances of resistor (66) and capacitor (75) accordingly. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to make the ratio from the upper to lower limit of each said interval being between 1.1 and 1.2, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

With respect to the limitations of claims 16, 17, 24 and 25, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to make the recording circuit assign voltage values below 150 VAC or 165 VAC a pulse-duty ratio of 1, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Ralis whose telephone number is 571-272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stephen J Ralis  
Examiner  
Art Unit 3742

SJR  
September 27, 2007



**TU BA HOANG**  
**SUPERVISORY PATENT EXAMINER**